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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,023	06/14/2004	Philip A. Lamarre	20030146	4022

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EXAMINER

BARRECA, NICOLE M

ART UNIT PAPER NUMBER

1756

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/710,023

Applicant(s)

LAMARRE, PHILIP A.

Examiner

Nicole M. Barreca

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-20 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. Claims 1-20 are pending in this application.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 contains the trademark/trade name SU-8. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the resist layers and, accordingly, the identification/description is indefinite.

The applicant argues that claim 7 is not indefinite because SU-8 resists are well known to those skilled in the art and that material data sheets of such resist are publicly available. However, a trademark or trade name is used to identify a source of goods, and not the goods themselves and does not identify or describe the goods associated

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with the trademark or trade name. The actual composition of a resist with a trademark name may change over time and may therefore change the scope of a patent claim during its term. The use of a trademark or trade name in a claim as a limitation to identify or describe a particular material therefore renders the claim indefinite.

***Response to Amendment***

4. The 35 USC 102 and 103 rejections of the claims over Liao and over Behfar are withdrawn as the references do not teach or suggest an opaque barrier as amended.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Canavello (US 4,212,935).

7. A thin intermediate metallic layer is deposited to protect the first resist layer during deposition of the top photoresist layer. The top layer is developed and used as a mask for the etching through the intermediate metallic layer. The intermediate metallic layer and overlying top resist layer act as a mask during development of the bottom resist layer (col.2, 13-27).

8. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Jennison (US 6,156,487).

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9. Second photoresist layer 18, intermediate metal layer 16 and first photoresist layer 14 are formed over the substrate. Opening 20 is formed in the second photoresist and used as a mask to etch the intermediate and first photoresist layers. See col.4, 12-col.5, 12 and Fig. 1G.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Canavello.

12. The reference does not disclose using a second barrier layer and a overlying third resist layer. However the reference does teach that the thin intermediate metallic layer is deposited to protect the first resist layer during deposition of the second photoresist layer. One of ordinary skill would recognize that any number of additional resist layers could be deposited, as was required to produce the desired final device pattern, as this is known and frequently practiced in the lithography art. It would have been obvious to one of ordinary skill in the art that additional barrier layers would be required to be deposited between these resist layers because Canavello teaches that the thin intermediate metallic layer is deposited to protect the first resist layer during deposition of the second photoresist layer. The reference is silent on the specific patterns produced and does not disclose that the structure includes variable patterns, a

plurality of structures or variable sizes. However it is known in the art that the photoresist patterns produced would be dependent on the requirements of the final device being manufactures and that the complexity of semiconductor devices typically require numerous lithographic patterns and sizes. It would be within the ordinary skill of one in the lithography art to determine such photoresist pattern requirements and to use variable patterns, a plurality of structures or variable sizes as was required for the specifications of the specific device being manufactured.

***Allowable Subject Matter***

13. Claims 9-20 are allowed.

14. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach or suggest a method for fabricating a multi-layered lithographic semiconductor comprising the combination of claimed process steps including depositing an opaque barrier layer to the first resist layer covering the first latent image. While the prior art does teach structures including a patterned opaque barrier layer between two patterned photoresist layers, the references do not pattern-wise expose the first resist layer to form a latent image prior to deposition of the barrier layer but teach patterning this layer using the overlying layers as masks.

***Response to Arguments***

15. Applicant's arguments with respect to claims 1-8 are have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole M. Barreca whose telephone number is 571-272-1379. The examiner can normally be reached on Monday-Thursday (9AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark F. Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicole M Barreca  
Primary Examiner  
Art Unit 1756



10/15/05